



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,097	07/03/2003	Scott Adam Stephens	9792-0038-999	7392
24341	7590	05/03/2006	EXAMINER	
MORGAN, LEWIS & BOCKIUS, LLP.			ALSOMIRI, ISAM A	
2 PALO ALTO SQUARE			ART UNIT	
3000 EL CAMINO REAL			PAPER NUMBER	
PALO ALTO, CA 94306			3662	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/614,097	<b>Applicant(s)</b> STEPHENS, SCOTT ADAM	
	<b>Examiner</b> Isam Alsomiri	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-23 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lanziner EP 0 325 539 A1.**

Referring to claim 15, Lanziner discloses in figures 1-2 and 6-8 a positioning system, comprising a passive, isotropic reflecting landmark at a fixed position 8 or 6; and a device configured to transmit an electromagnetic pulse, the pulse having a polarization (see Abstract); the device further configured to receive a return signal over a period of time, the return signal including a reflected pulse from the landmark, and to process the return signal so as to isolate the reflected pulse from the return signal and to determine a range from the device to the landmark (see col. 4 lines 18-35); the reflecting landmark comprising: a first passive reflector 6 for reflecting electromagnetic pulses [figure 6]; a second passive reflector 4 for reflecting electromagnetic pulses ; and a static structure 24 or 14 configured to statically position the second passive reflector at an angle relative to the first passive reflector, wherein the angle is about 90°.

Furthermore, the a cross section of the landmark 2 has substantially isotropic reflecting properties with respect to azimuth angles in a plane containing the landmark

Art Unit: 3662

and the device. Therefore, the properties (as velocity of light transmission, polarization, etc.) are the same values when measured along axes in substantially all directions.

Referring to claims 16-17, Lanziner teaches the polarization is a circular polarization (see col. 3 lines 22+); the polarization is selected from the group consisting of right-hand circular polarization RHCP and left-hand circular polarization (LHCP).

Referring to claim 18, Lanziner teaches the device includes at least one antenna configured to preferentially receive signals having the polarization (see col. 4 lines 5-9).

Referring to claim 19, Lanziner teaches wherein the device includes at least one antenna configured to both preferentially transmit the pulse having the polarization and to preferentially receive signals having the polarization (see col. 3 lines 48-50).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Link et al. US 5,572,427.**

Referring to claim 20, Lanziner teaches the device including a vehicle locomotion mechanism (ship or vehicle) for moving the device in a particular direction, at a velocity; a data processor; at least one program module (inherent), executed by the data

processor containing instructions to do the calculations. However, Lanziner is silent about detecting a Doppler shift in the reflected pulse portion of the return signal; and determining an angle between the particular direction and a straight line between the device and the landmark; Link teaches the claimed detecting a Doppler shift in the reflected pulse to determine the bearing of the signal source (in Lanziner case it would be the reflected signal) relative the moving receiver (in Lanziner, it would be the device). It would have been obvious to modify Lanziner device to further determine the Doppler shift as taught by Link to locate the landmark relative to the device with more accuracy because the device is constantly changing position "moving".

**Claims 21-22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Fukae et al. EP 0 961 134 A.**

Referring to claims 21-22 and 28, Lanziner teaches a vehicle locomotion mechanism for moving the device in a particular direction, at a velocity; a data processor; at least one program module, executed by the data processor, the at least one program module containing instructions for the device (inherent). Lanziner is silent about transmitting the pulse at a first position of the device and determining from the received return signal a first set of range candidates, each range candidate representing a possible range to the landmark; transmitting the pulse at a second position of the device and determining from the received return signal a second set of range candidates; processing the first and second sets of range candidates to produce a

Art Unit: 3662

reduced set of range candidates that are consistent with one or more potential landmark positions. Fukae teaches a similar device which the claimed transmitting a first and second pulses at a first and second positions respectively with a predetermined distance between the first and second signal, and process the two signals to produce a reduced set of range candidates (see paragraphs 0041 – 0049, figures 5-7). It would have been obvious to modify Lanziner's system to include the steps of Fukae as mentioned above for more accurate tracking of the landmark to obtain precise location measurements.

**Claims 23-24 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Fukae et al. EP 0 961 134 A and Holt US 6,608,593.**

Referring to claims 23 and 26-27. (Original) Lanziner teaches a vehicle locomotion mechanism for moving the device in a particular direction, at a velocity; a data processor; at least one program module, executed by the data processor, the at least one program module containing instructions for the device (inherent). Lanziner is silent about transmitting the pulse at a first position of the device and determining from the received return signal a first set of range candidates, each range candidate representing a possible range to the landmark; transmitting the pulse at a second position of the device and determining from the received return signal a second set of range candidates; processing the first and second sets of range candidates to produce a reduced set of range candidates that are consistent with one or more potential

Art Unit: 3662

landmark positions. Fukae teaches a similar device which the claimed transmitting a first and second pulses at a first and second positions respectively with a predetermined distance between the first and second signal, and process the two signals to produce a reduced set of range candidates (see paragraphs 0041 – 0049, figures 5-7). It would have been obvious to modify Lanziner's system to include the steps of Fukae as mentioned above for more accurate tracking of the landmark to obtain precise location measurements. Furthermore the combination of Lanziner and Fukae does not teach the claimed each transmission of the pulse having a respective transmission beam pattern with a null over a different respective range of angles; However, Holt teaches a similar system including the claimed null over a different respective range of angles (see col. 18 lines 47-55, col. 4 lines 31-36). It would have been obvious to modify the combination of Lanziner and Fukae to include the null over different respective range of angles as in Holt to obtain signals from the desired angles and distinguish the received signals

**Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Fukae et al. EP 0 961 134 A and Holt US 6,608,593 as applied to claim 23 above, and further in view of Lamensdorf et al. US 20040008153A1.**

Holt is silent about the antenna used for the null includes at least two antennas driven by substantially identical signals having a phase difference, the phase difference controlling the range of angles of the null. However, these antennas are well known.

Art Unit: 3662

Lamensdorf teaches the claimed two antennas for controlling the range of the null (see Abstract, paragraph [0057]). It would have been obvious to use the two antenna system of Lamensdorf to null the desired angles and distinguish the received signals.

### ***Allowable Subject Matter***

Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed February 27, 2006 have been fully considered but they are not persuasive. Regarding claims 15-28, applicant argues that "Lanziner do not, without special design such as that disclosed in the present application, have substantially isotropic cross-sections" (page 12), and explained that Lanziner teaches some reflectors have a broad beam angle and that Fig. 8 described as expanding "the relatively narrow beam pattern of the individual reflectors in azimuth" (Lanziner col. 6 lines 6-12). In response, it seems that the applicant is interpreting and reading the specification into the broad claim language. Claim 15 reads "wherein a cross-section of the landmark has substantially isotropic reflecting properties with respect to azimuth angles in a plane containing the landmark and the device"; therefore, with respect to azimuth angles, if the reflected light has some substantially some of the same properties as the transmitted light, than that would read on the broad claim language, in



Art Unit: 3662

the instant case the properties can be polarization, speed, etc. It seems that the applicant is arguing for the azimuth angles of the transmitted beam being the same as it reflects off the isotropic reflector. However, that is not what is being claimed.

Therefore, the rejections are maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

Art Unit: 3662

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isam Alsomiri



April 30, 2006



THOMAS H. TARCZA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600